



U.S. Department
Of Transportation
**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

November 8, 1994

Refer to: HNG-14/SS-50

Mr. David S. Gendell
Regional Federal Highway Administrator (HEO-03.2)
Baltimore, Maryland

Dear Mr. Gendell:

This is in response to your office memorandum of October 24 requesting that a single unmodified 114-mm x 114-mm (nominal 5-inch x 5-inch) wood post mounted in a soil-cement foundation be accepted as a breakaway sign support. The posts were tested for compliance with the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, dated 1985, at the Federal Outdoor Impact Facility (FOIL). The AASHTO specifications have been adopted, with minor modifications, by the Federal Highway Administration (FHWA). Your request included a copy of the test report of FOIL tests numbers 94F003 and 94F004. A sketch of the test installation is attached.

The test results are summarized here:

Test Number	94F003	94F004
Test Vehicle and Mass Impact Location	Foil Bogie, 839 kg Center	
Foundation Diameter Foundation Depth	(Soil-Cement) 305 mm 1067 mm	
Soil Type Sign Mounting Height	NHCRP 350 Standard 2100 mm (to bottom)	
Wood Quality Wood Species	American Lumber Standard No. 2SR Southern Pine	
Test Speed	36.3 km/h	100.4 km/h
Velocity Change (maximum allowed 5.0 m/s)	1.5 m/s	1.3 m/s
Stub Height	0	0

The results of these tests meet the change-in-velocity and stub-height requirements adopted by FHWA. The subject 114-mm x 114-mm single wood post supports mounted

in soil-cement foundations are therefore acceptable for use on projects on the National Highway Systems, within the range of conditions tested, if proposed by a State. The 2100-mm mounting height to the bottom of the sign is to be considered a minimum to reduce the likelihood that the top of the sign and post will penetrate the windshield.

Our acceptance is limited to the breakaway characteristics of the system and does not cover the structural features. Presumably, the Virginia Department of Transportation will develop sufficient information on structural design and installation requirements to ensure proper performance.

Seppo I. Sillan

Federal Highway Administration
HNG-14:Nartimovich:366-1331:gm:11-9-94:Region 3
Copies to:
HPD-1 HNG-1 HNG-10 HNG-14
Reader, 3128 File, 3128
Ras HHS-10 HNG-20 HSR-20

Geometric and Roadside Design Acceptance Letter SS-50